

BOOK REVIEW

VIRUS-INSECT RELATIONSHIPS. By K. M. Smith. Longman Inc., New York. 291 pp. Profusely illustrated. \$23.50. Written from a biological point of view, this book provides a wealth of information on viruses that are known to produce diseases in insects. The book is divided into 2 parts. Part 1, "The different types of insect viruses", is further subdivided: Part A includes chapters on the inclusion-type virus diseases, and Part B presents chapters on the non inclusion-type viruses. The chapters in Part 1 are well organized, and provide concise descriptions of the virus particles, their polyhedra (where applicable), the disease caused, host range, and geographic distribution. Sometimes additional information is given about virus replication, serology, and transmission. Many electron micrographs show purified virus particles (usually negatively stained preparations) and thin sections of virus infected host tissue. Generally, the electron micrographs are excellent reproductions from papers cited by the author. Diagrammatic representations showing virus replication and assembly processes are also given for some of the viruses.

Part 2, "Further aspects of the study of virus-insect relationships", contains 12 chapters that cover a wide range of subjects: routes of infection and reproduction of insect viruses (Ch. 8), serology of insect viruses (Ch. 9), latent infections (Ch. 11), tissue culture of insect viruses (Ch. 12), and insects and other arthropods as vectors of plant and animal diseases (Ch. 17, 18). These chapters are quite general, but specific examples from the literature have been used to consolidate subject matter. Chapters on synthetic feeding and mass rearing of insects (Ch. 16) and insects and other arthropods as vectors of animal diseases (Ch. 18) are relatively superficial. In view of the voluminous literature on each of these topics such as cursory review could have been omitted. The section on staining methods for optical microscopy (Ch. 15) could have been greatly enhanced by the addition of brief descriptions of methodology for study of viruses by electron microscopy. The book concludes with an appendix on virus diseases of mites, a bibliography containing about 750 references and an index to authors and subjects.

Knowing Dr. Smith's prominence and reputation as one of the world's leading insect virologists, I expected more than this volume appears to offer. However, the book has many strong points. The organization and presentation of Part 1, and the excellent electron micrographs provide a ready source of biological information concerning nearly all of the common, and some of the more unusual insect viruses. Also, the extensive bibliography gives an excellent entry into the literature on most phases of insect virology. The book is essentially a review of the literature. In some chapters, the author has integrated the literature citations into cohesive accounts; other chapters are not so well integrated.

The book contains at least 1 serious error. While describing the host range of the iridescent virus affecting *Aedes taeniorhynchus* (p. 107, lines 4-7) the author states "Larvae of *Corethrella brageleyi* (Diptera: Chaoboridae) in Louisiana are voracious predators of first-instar mosquito larvae and easily pick up the iridescent virus from MIV mosquitoes. The virus was readily transmissible to both *C. brageleyi* and *C. appendiculata* (Chapman et al., 1971)." This statement gives the erroneous impression that the iridescent virus from *Ae. taeniorhynchus* and that from *C. brageleyi* are the same. Actually, the paper cited (Chapman et al. 1971. *J. Invert. Pathol.* 18:284-6) describes a new iridescent virus from *C. brageleyi*. This was cross transmitted to larvae of *C. appendiculata*, but it COULD NOT be transmitted to larvae of *Ae. taeniorhynchus*, *Ae. sollicitans*, or *Psorophora ferox*.

Although *Virus-Insect Relationships* is not a book for virologists interested in biochemical aspects of insect viruses, it can be a valuable addition to the library of entomologists and insect pathologists working in biological control of insects. Some instructors may find Part 1 of the book helpful as an overview of insect viruses in courses concerning insect pathology.—Darrell W. Anthony, USDA, SEA, FR; Insects Affecting Man and Animals Research Lab. Gainesville, FL 32604